CLAIMS:

1. An electric compressor for use in a refrigeration circuit, the electric compressor comprising:

a housing having an outer surface;

an electric motor;

a compression mechanism accommodated in the housing, wherein the compression mechanism is driven by the electric motor to compress a refrigerant;

an inverter attached to the outer surface of the housing to drive the electric motor and including a switching device having a heat radiating surface;

a groove formed in the outer surface of the housing and having a wall, wherein the switching device is inserted in the groove so that the heat radiating surface contacts the wall of the groove.

2. The electric compressor according to claim 1, further comprising:

a pressure applying body for pressing the switching device toward the wall of the groove.

3. The electric compressor according to claim 1, wherein the switching device is one of a plurality of switching devices, the heat radiating surface of each of the switching devices contacts the wall of the groove.

4. The electric compressor according to claim 3, wherein the plurality of switching devices are integrated into a switching device assembly beforehand.

5. The electric compressor according to claim 1, wherein the wall of the groove includes two opposed wall

surfaces, wherein one of the wall surfaces inclines at a predetermined angle relative to the other one of the wall surfaces so that the distance between the two wall surfaces decreases at deeper positions in the groove.

6. The electric compressor according to claim 5, further comprising:

a fastening member for fastening the switching device to the housing, wherein the fastening member presses the switching device into the groove, and the heat radiating surface is pressed against the two inner surfaces.

7. The electric compressor according to claim 5, wherein the switching device is one of a plurality of switching devices, the plurality of switching devices are integrated into a switching device assembly arranged in a substantially wedge-like manner beforehand.

8. The electric compressor according to claim 7, wherein the switching device assembly has two outer surfaces, each facing one of the two wall surfaces of the groove, the outer surface faces the two outer surfaces inclined relative to each other at an angle that is the same as said predetermined angle, and the heat radiating surface of each of the switching devices is exposed from one of the two outer surfaces.

9. The electric compressor according to claim 8, wherein the plurality of switching devices includes at least one switching device exposed from one of the two outer surfaces of the switching device assembly and at least one other switching device exposed from the other one of the two outer surfaces.

10. The electric compressor according to claim 1, further comprising:

an elastic sheet arranged between the heat radiating surface of the switching device and the wall of the groove.

11. The electric compressor according to claim 1, wherein the refrigeration circuit includes the electric compressor and an external circuit connected to the electric compressor, and the housing includes a refrigerant gas passage for drawing refrigerant gas into the compression mechanism from the external circuit, and the refrigerant gas passage passes by the groove.

12. The electric compressor according to claim 1, wherein the inverter includes a circuit board to which the switching device is connected, the switching devices being connected to the circuit board after inserting the switching device into the groove.

13. The electric compressor according to claim 1, wherein part of the housing defines a retainer for retaining the inverter.

14. An electric compressor comprising:

a housing having a cylindrical wall with an outer surface and an axis;

an electric motor;

a compression mechanism accommodated in the housing for being driven by the electric motor; and

an inverter attached to the outer surface of the cylindrical wall to drive the electric motor, and including a plurality of cylindrical electrolysis capacitors, each

electrolysis capacitor having an axis, the axes of the electrolysis capacitors being parallel to one another and parallel to the axis of the cylindrical wall.

15. The electric compressor according to claim 14, wherein the electrolysis capacitors are arranged in a line along a circumferential direction of the cylindrical wall.

16. The electric compressor according to claim 14, further comprising:

a capacitor holder attached to the housing, wherein the electrolysis capacitors are held between the capacitor holder and the cylindrical wall.

17. The electric compressor according to claim 14, wherein the inverter further includes:

a switching device;

a first circuit board; and

a second circuit board separated from the first circuit board, wherein the switching device is mounted on the first circuit board, and the electrolysis capacitors are mounted on the second circuit board.

18. The electric compressor according to claim 17, wherein the second circuit board is curved in correspondence with the outer surface of the cylindrical wall.

19. The electric compressor according to claim 14, wherein the inverter further includes:

a switching device; and

a circuit board on which the switching device is mounted, wherein the electrolysis capacitors are arranged between the circuit board and the cylindrical wall.

20. The electric compressor according to claim 14, further comprising:

an elastic sheet arranged between the electrolysis capacitors and the cylindrical wall, wherein each of the electrolysis capacitors is pressed against the outer surface of the cylindrical wall by the sheet.

21. An electric compressor for use in a refrigeration circuit, the electric compressor comprising:

a housing having a cylindrical wall with an outer surface and an axis;

an electric motor;

a compression mechanism accommodated in the housing, and when operated, the compression mechanism being driven by the electric motor;

an inverter attached to the outer surface of the cylindrical wall to drive the electric motor, and including a switching device having a heat radiating surface and a plurality of cylindrical electrolysis capacitors, each electrolysis capacitor having an axis, the axes of the electrolysis capacitors being parallel to one another and parallel to the axis of the cylindrical wall

a groove having a wall is formed in the outer surface of the housing, and the switching device is inserted in the groove so that the heat radiating surface contacts the wall of the groove.